

**Amendment to Claims**  
U.S. Patent No. 10/655,537  
Titled: Power Amplifier System  
Inventor: Martin Gross  
Atty. Docket No. 59643-00315

**IN THE CLAIMS:**

Please amend claims 1 and 23 as follows.

1. A power amplifier comprising:  
input means for receiving signals at a plurality of different frequencies;  
a power transistor for amplifying received signals;  
first circuitry connected at one end to said power transistor and at another end to a relatively low frequency shorting circuitry, said first circuitry being such that said another end is an open circuit to said different frequencies, said first circuitry comprising a short circuit at signal envelope frequencies thereby causing said first circuitry to have having a length which is substantially less than a quarter wavelength of said different frequencies.
2. A system as claimed in claim 1, wherein said first circuitry has a length in the range of .10 to .25 degrees of a signal envelope frequency.
3. A system as claimed in claim 2, wherein said first circuitry has a length in the range of .15 to .20 degrees of a signal envelope frequency.
4. A system as claimed in claim 3, wherein said first circuitry has a length of about .17 degrees of a signal envelope frequency.
5. A system as claimed in claim 1, wherein said first circuitry comprises a band stop filter.

6. A system as claimed in claim 1, wherein said first circuitry comprises a least one resonant circuit.
7. A system as claimed in claim 6, wherein the at least one resonant circuit comprises an inductor and a capacitor.
8. A system as claimed in claim 7 wherein said inductor and said capacitor are arranged in series or in parallel.
9. A system as claimed in claim 8, wherein said first circuitry comprises a first resonant circuit having an inductor and capacitor in parallel and a second resonant circuit having a capacitor and inductor in series.
10. A system as claimed in claim 1, wherein said first circuitry provides a voltage feed path.
11. A system as claimed in claim 1, wherein said first circuitry has a relatively low impedance path for said relatively low frequency.
12. A system amplifier as claimed in claim 1, wherein said different frequencies are radio frequencies.
13. A system as claimed in claim 1, wherein said low frequency is of the order of a difference in frequency of said different frequencies.
14. A system as claimed in claim 1, wherein said plurality of frequencies are provided by one of multi-carrier modulation and relatively wide bandwidth modulation.

15. A system as claimed in claim 1, wherein said power amplifier transistor is provided in an integrated circuit.
16. A system as claimed in claim 1, wherein said first circuitry is at least partly provided in said integrated circuit.
17. A system as claimed in claim 16, wherein at least one inductor is provided by a bond wire.
18. A system as claimed in claim 1, wherein memory effects are reduced.
19. A system as claimed in claim 1, wherein said signals comprise EDGE signals.
20. A system as claimed in claim 1, wherein said signals comprise multi carrier signals.
21. A system as claimed in claim 1, wherein said relatively low frequency shorting circuitry is arranged to short circuit at a reference plane of said power transistor.
22. A transmitter comprising a power amplifier system as claimed in claim 1.
23. An integrated circuit comprising:
  - input means for receiving a signals at a plurality of different frequencies;
  - a power transistor for amplifying received signals;
  - first circuitry connected at one end to said power amplifier and at another end to a relatively low frequency shorting circuitry, said first circuitry being such that said another end is an open circuit to said different frequencies, said first circuitry comprising a short circuit at signal envelope frequencies thereby causing said first circuitry to have having a length which is substantially less than a quarter wavelength of said different frequencies.